Florida Retirement System

The Actuarial Assumption Estimating Conference
Including Preliminary July 1, 2004 Actuarial Valuation Results

October 21, 2004
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All results presented herein are based on the assumptions set forth in the July 1, 1998 – June 30, 2003 Experience Study.
Overview

- Historical Analysis
- 2004 Valuation
- Projections
- Appendix
Actuarial Primer

The Harvard Business Review 1965
Historical Analysis

- Membership & Employer Payroll
- Market & Actuarial Value of Assets
- Liabilities
- Funding Target
- Contributions
- Plan Cash Flows
- Historic Asset Returns
Membership & Employer Payroll

Thousand


Billions

$0 $5 $10 $15 $20 $25

Inactive  Active  Payroll

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Market & Actuarial Value of Assets

Billions

MVA Equities  MVA Debt  MVA Other  AVA


Values:
- 1987: $0
- 1988: $10
- 1989: $20
- 1990: $40
- 1991: $60
- 1992: $80
- 1993: $100
- 1994: $120
- 1995: $140
- 1996: $160
- 1997: $180
- 1998: $200
- 1999: $220
- 2000: $240
- 2001: $260
- 2002: $280
- 2003: $300
- 2004: $320
Funding Target
Actuarial Value of Assets / Actuarial Liabilities

112.2% Funded

100%

100%

60%

50%

1987 1989 1991 1993 1995 1997 1999 2000 2001 2002 2003 2004

Actual

100%
Contributions

(Contribution rate shown in year developed; contribution amount adjusted for budget lag*)

* For example, contributions for fiscal year 2004 are shown in 2002.
Plan Cash Flows

Billions

Contributions
Investment Income
Benefit Payments
Transfers to PEORP


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Historic Returns

Market Value
Actuarial Value
Assumed
2004 Valuation

- Valuation Highlights
- Composite Funding Levels
- Normal Cost Rates
- Summary of PEORP Elections
- Effect of Salary Distribution on Normal Cost Rates
2004 Valuation Highlights

- Results based on July 1, 2004 actuarial assumptions and methods as established by the July 1, 1998 – June 30, 2003 experience study

- FRS remains in a surplus position (i.e. “Fully Funded”)

- Favorable Asset Performance

- AVA exceeds MVA by 4.2% or $4.3 billion
Asset Smoothing

Five-Year smoothing method helps alleviate heavy losses (on an actuarial basis) at times of unfavorable asset performance. However, large gains are also not “felt” at once.
**Assets: MVA vs. AVA**

*(in Billions)*

<table>
<thead>
<tr>
<th>Year</th>
<th>MVA</th>
<th>MVA Return</th>
<th>AVA</th>
<th>AVA Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>$ 96.1</td>
<td>13.76%</td>
<td>$ 77.8</td>
<td>14.80%</td>
</tr>
<tr>
<td>2000</td>
<td>106.5</td>
<td>10.82</td>
<td>88.5</td>
<td>13.79</td>
</tr>
<tr>
<td>2001</td>
<td>98.4</td>
<td>-6.93</td>
<td>95.5</td>
<td>8.82</td>
</tr>
<tr>
<td>2002</td>
<td>89.7</td>
<td>-7.62</td>
<td>99.4</td>
<td>5.44</td>
</tr>
<tr>
<td>2003</td>
<td>90.5</td>
<td>3.76</td>
<td>101.9</td>
<td>5.10</td>
</tr>
<tr>
<td>2004</td>
<td>102.4</td>
<td>15.73</td>
<td>106.7</td>
<td>6.93</td>
</tr>
</tbody>
</table>

In the past the MVA exceeded AVA. However, even after a year of favorable MVA return, the AVA still exceeds the MVA. Due to three prior years of unfavorable MVA returns, the MVA needs to continue to earn more than 7.75% to cover the “banked” losses ($106.7 - $102.4 = $4.3 billion). MVA Return in 2003-04 was 15.73%
## Composite Funding Levels

($ Billions)

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2004</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actuarial Liability</td>
<td>$90.4</td>
<td>$95.1</td>
<td>5.2%</td>
</tr>
<tr>
<td>Actuarial Value of Assets</td>
<td>$101.9</td>
<td>$106.7</td>
<td>4.7%</td>
</tr>
<tr>
<td>Unfunded Actuarial Liability</td>
<td>($11.5)</td>
<td>($11.6)</td>
<td>0.9%</td>
</tr>
<tr>
<td>% Funded</td>
<td>112.7%</td>
<td>112.2%</td>
<td></td>
</tr>
</tbody>
</table>
## Normal Cost Rates

<table>
<thead>
<tr>
<th>Employer</th>
<th>Date of Actuarial Valuation</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>07/01/2003</td>
<td>07/01/2004</td>
</tr>
<tr>
<td>FRS Regular</td>
<td>9.98%</td>
<td>9.52%</td>
</tr>
<tr>
<td>Special Risk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regular</td>
<td>22.16%</td>
<td>21.90%</td>
</tr>
<tr>
<td>Administration</td>
<td>12.55%</td>
<td>12.39%</td>
</tr>
<tr>
<td>Elected Officer’s Class</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Judicial</td>
<td>20.78%</td>
<td>20.44%</td>
</tr>
<tr>
<td>Leg-Atty-Cab</td>
<td>15.82%</td>
<td>14.85%</td>
</tr>
<tr>
<td>County</td>
<td>17.73%</td>
<td>16.97%</td>
</tr>
<tr>
<td>Senior Management</td>
<td>11.64%</td>
<td>13.30%</td>
</tr>
<tr>
<td>Composite Rate</td>
<td>11.72%</td>
<td>11.37%</td>
</tr>
<tr>
<td>Composite Rate with DROP at 11.56% last year and 10.73% this year</td>
<td>11.71%</td>
<td>11.33%</td>
</tr>
</tbody>
</table>
### PEORP – 7/1/2004

<table>
<thead>
<tr>
<th>Employer</th>
<th>Remaining “Original” Transfers</th>
<th>Contingent Liability (000 omitted)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRS Regular</td>
<td>15,477</td>
<td>$237,733</td>
</tr>
<tr>
<td>Special Risk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regular</td>
<td>536</td>
<td>12,393</td>
</tr>
<tr>
<td>Administration</td>
<td>2</td>
<td>(26)</td>
</tr>
<tr>
<td>Elected Officer’s Class</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Judicial</td>
<td>9</td>
<td>(646)</td>
</tr>
<tr>
<td>Leg-Atty-Cab</td>
<td>7</td>
<td>155</td>
</tr>
<tr>
<td>County</td>
<td>37</td>
<td>206</td>
</tr>
<tr>
<td>Senior Management</td>
<td>455</td>
<td>12,975</td>
</tr>
<tr>
<td>TOTAL</td>
<td>16,523</td>
<td>$262,790</td>
</tr>
</tbody>
</table>

2003 TOTAL 21,043 $312,915

Net Assets transferred to PEORP in 2003: $353,193
Actuarial Liability and Asset Projections

- Assuming 7.75% constant investment returns
- Assuming (7.75%) investment return for one year followed by constant 7.75% returns
- Assuming (7.75%) investment returns for two years followed by constant 7.75% returns
- Assuming a 2005 MVA of $80 billion, followed by Constant 7.75% Investment Returns

* All returns are on a Market Value Basis
Comparison of Actuarial Liabilities & Assets Assuming Constant 7.75% Investment Returns

Billions

- Actuarial Liability
- Actuarial Value of Assets
Comparison of Actuarial Liabilities & Assets Assuming a –7.75% Return followed by Constant 7.75% Investment Returns

Assuming a constant contribution rate
Comparison of Actuarial Liabilities & Assets
Assuming two years with a –7.75% Return followed by Constant 7.75% Investment Returns

Billions

Actuarial Liability
Actuarial Value of Assets

Assuming a constant contribution rate
Comparison of Actuarial Liabilities & Assets
Assuming a 2005 MVA of $80 billion, followed by Constant 7.75% Investment Returns

Assuming a constant contribution rate
Appendix

● Salary Experience
  - Compare last two years
  - Compare last six years
Salary Experience
All Actives – Last Two Fiscal Years

FY '02 to '03
FY '03 to '04
Assumption
The purpose of this presentation is to provide preliminary results of the July 1, 2004 actuarial valuation of the Florida Retirement System Pension Plan and compare them to results from prior valuations. The results are not yet final and are subject to review and possible revision.

We relied, without audit, on information (some oral and some written) supplied by the Division of Retirement. This information includes, but is not limited to, plan provisions, employee data, and financial information. Census data provided to us by the Division has been reviewed for reasonableness and for consistency with data used in prior valuations. It should be noted that if any data or other information is inaccurate or incomplete, our calculations may need to be revised.

The actuarial assumptions used in performing this valuation have been recommended by the actuary and adopted by the Actuarial Assumption Conference based on Milliman’s most recent review of the System’s experience completed during Fiscal Year 2004. We believe the assumptions used reflect our best estimate of anticipated future experience of the plan. The results of this report are dependent upon future experience conforming to these assumptions. To the extent that future experience deviates from these assumptions, the true cost of the plan could vary from our results.